

IN THE CLAIMS:

Please replace the claims as follows (the status in accordance with the changes being made on this amendment being presented below):

1. (Previously Presented) A plasma processing apparatus comprising:  
a first electrode;  
a substrate configured to be subjected to a plasma, the substrate being positioned on the first electrode;  
a magnetic field generator configured to apply a static magnetic field to a surface of the substrate to which the plasma process is applied; and  
an auxiliary electrode provided on an outer periphery of said first electrode to excite plasma in a vicinity of the auxiliary electrode,  
wherein the auxiliary electrode is a planar electrode which extends substantially parallel to a surface of the first electrode, and  
wherein the auxiliary electrode lacks any part that prevents a drift of electrons in the vicinity of the auxiliary electrode in a direction parallel to a front surface of the auxiliary electrode and a back surface of the auxiliary electrode so as to facilitate electrons in the plasma to drift from the front surface of said auxiliary electrode to the back surface thereof and from the back surface of said auxiliary electrode to the front surface thereof.
2. (Previously Presented) The plasma processing apparatus as claimed in claim 1, wherein the front surface of said auxiliary electrode is covered by an insulating material.
3. (Previously Presented) The plasma processing apparatus as claimed in claim 1 or 2, wherein the substrate has a surface positioned at a level substantially equal to a level of the front surface of said auxiliary electrode.
4. (Previously Presented) The plasma processing apparatus as claimed in claim 1 or 2, wherein said magnetic field generator comprises a dipole ring magnet.
5. (Previously Presented) The plasma processing apparatus as claimed in claim 1 or 2, wherein said first electrode is supplied with a first radio frequency and said auxiliary

electrode is supplied with a second radio frequency and wherein the first and the second radio frequencies are equal to each other and have different phases thereof.

6. (Previously Presented) The plasma processing apparatus as claimed in claim 1 or 2, wherein said first electrode is supplied with a first radio frequency and said auxiliary electrode is supplied with a second radio frequency and wherein said second radio frequency is higher than said first radio frequency.

7. (Previously Presented) A plasma processing method performed in a plasma processing apparatus comprising a first electrode on which a substrate is positioned and an auxiliary electrode provided on an outer periphery of said first electrode, the method comprising:

- subjecting the substrate to a plasma process containing a plasma;
- applying a static magnetic field to a surface of the substrate to which the plasma process is applied;
- exciting plasma on at least a back surface of the auxiliary electrode; and

causing electrons in the plasma to drift from a front surface of said auxiliary electrode to the back surface thereof and from the back surface of said auxiliary electrode to the front surface thereof.

8. (Currently Amended) A plasma processing apparatus comprising:

- a first electrode;
- a substrate configured to be subjected to a plasma, the substrate being positioned on the first electrode;
- a magnetic field generator configured to apply a static magnetic field to a surface of the substrate to which the plasma process is applied; and
- an auxiliary electrode provided on an outer periphery of said first electrode to excite plasma in a vicinity of the auxiliary electrode, [[the]] a front surface of said auxiliary electrode being covered by an insulating material such that a difference in plasma density is created between the front surface of the auxiliary electrode and a back surface of the auxiliary electrode,

wherein electrons in the plasma drift from ~~[[a]]~~ the front surface of said auxiliary electrode to ~~[[a]]~~ the back surface thereof and from the back surface of said auxiliary electrode to the front surface thereof.

9. (Currently Amended) A plasma processing apparatus comprising:

a first electrode;

a substrate configured to be subjected to a plasma, the substrate being positioned on the first electrode;

a magnetic field generator configured to apply a static magnetic field to a surface of the substrate to which the plasma process is applied; and

an auxiliary electrode provided on an outer periphery of said first electrode to excite plasma in a vicinity of the auxiliary electrode,

wherein electrons in the plasma drift from a front surface of said auxiliary electrode to a back surface thereof and from the back surface of said auxiliary electrode to the front surface thereof,

wherein the front surface of said auxiliary electrode is covered by an insulating material and the back surface of said auxiliary electrode is not covered by said insulating material such that a difference in plasma density is created between the front surface of the auxiliary electrode and the back surface of the auxiliary electrode.

10. (Previously Presented) A plasma processing apparatus comprising:

a first electrode;

a substrate configured to be subjected to a plasma, the substrate being positioned on the first electrode;

a magnetic field generator configured to apply a static magnetic field to a surface of the substrate to which the plasma process is applied; and

an auxiliary electrode provided on an outer periphery of said first electrode to excite plasma in a vicinity of the auxiliary electrode,

wherein electrons in the plasma drift from a front surface of said auxiliary electrode to a back surface thereof and from the back surface of said auxiliary electrode to the front surface thereof,

wherein said first electrode is supplied with a first radio frequency and said auxiliary electrode is supplied with a second radio frequency and wherein the first and the second radio frequencies are equal to each other and have different phases thereof.